REMARKS

As has been noted during prosecution of the parent application, applicants' invention provides an apparatus, a method and a medium for generating apparatus-specific levels of protection against reproduction or decoding of main data conveyed by a data medium.

The Invention

In accordance with the invention, the level of protection against reproduction is determined by:

1) medium protection data specific to predetermined data portions within the main data, which are conveyed by the same medium which conveys the main data;

2) protection position information data, specifying positions within the main data of the predetermined data portions to which the reproduction protection is to be applied; and

3) apparatus protection data, generated for example by the reproduction or decoding apparatus itself, which are specific to the apparatus.

By the present amendment, applicants further emphasize the features of the invention wherein: i) the medium protection data are specific to each of one or more portions of the main data, and ii) the protection position information data specify the positions of the respective portions to be protected.

Moreover, in the newly submitted dependent claims, applicants further emphasize applicability of the invention to video signals, in which the data portions

represent 1) a sequence of one or more frames, or 2) one or more regions of a sequence of one or more frames.

These claims thus more specifically include application of reproduction protection (e.g., restrictions on the video reproduction) in either or both of the ***time domain***, by restricting reproduction or decoding of a sequence of frames of the video signal, and the ***spatial domain***, by restricting reproduction or decoding of one or more specific regions within a frame (or sequence of frames).

The Official Action

In the outstanding Official Action, the Examiner admits that the claims are not anticipated by the previously applied Kilbel reference (U.S.P. 5,214,556), which fails to teach the concept of protection position information, as set out in the present application. However, the Action now rejects the claims under 35 USC 103 over Kilbel in view of Abecassis (U.S.P. 5,434,678).

Applicants respectfully traverse the rejection for the following reasons.

Traverse

As hereinabove noted, the claims as amended herein clearly require an ability to apply reproduction protection to predetermined specific portions of the main data (such as to specific individual frames of a video signal or to specific regions within specific frames, for the case in which the main data conveys a video signal), where the respective positions of the specific portions within the main data are represented by the protection position information which, together with the main data, is conveyed by the data medium.

The invention as now recited in the amended claims thus provides a reproduction apparatus, operating on main data which are conveyed by a data medium, having the following elements, each supported by the specification.

(1) Means for detecting medium protection data which are specific to each of one or more predetermined data portions of the main data and which, similarly to the main data, are also conveyed by the data medium. Two examples of such medium protection data are illustrated by the "medium protection level" shown in Fig. 3 of the drawings, as described in the portion from page 11, line 20 to page 12, line 14 of the specification. As shown therein, five different levels of reproduction protection can be specified which, for example, may be directly linked to U.S. movie ratings.

(2) Means for detecting protection position information which specifies the respective positions (within the main data) of those portions of the main data that are to be subjected to reproduction protection. The protection position information is also conveyed by the data medium, together with the main data.

Use of protection position information is illustrated in Fig. 8 of the drawings, while a specific example of applying protection position information to a video signal that is encoded as an MPEG data stream is illustrated in Fig. 9 and is described in the portion from page 35, line 9 to page 39, line 8 of the specification. In the example of Fig. 8, a specific region (e.g., set of adjoining macroblocks) in each of a specific set of sequential frames is designated by the protection position information, for two of such frame sequences.

(3) Means for generating apparatus protection data which are specific to the reproduction apparatus.

Fig. 2 shows an example whereby the apparatus protection data (generated by the apparatus protection signal generating section 12 of Fig. 1) specifies one of four apparatus protection levels.

(4) Means for defining a protection level based on a combination of the medium protection data and the apparatus protection data. This is illustrated by the table of Fig. 2.

(5) Means for executing reproduction of the main data while applying reproduction protection to each of the portions of the main data whose respective positions within the main data are specified by the protection position information.

It is important to note that, by defining the protection level in accordance with a combination of the apparatus protection data *and* the medium protection data (which provides specific data for different data portions in the main data), the present invention provides a degree of reproduction protection which is based on a data combination which corresponds to, or varies with, particular portions of the main data.

That is, the degree of reproduction protection may be differently determined, or differently applied, to each portion of the main data.

For the example in which the main data represents a video signal (conveyed as an MPEG data stream), this specificity in the protection level is illustrated by the description in the portion from page 35, line 9 to page 36, line 15 of the

specification and Fig. 9 of the drawings. As described therein, the video data frames are conveyed by respective data packs, each preceded by a corresponding protection data pack. That protection data pack includes a 3-bit portion which specifies the medium protection level for its corresponding video frame. In addition, that protection data pack can include bits which specify the respective positions (within the video frame) of specific macroblocks to which the reproduction protection is to be applied, such as by effecting a blurring of these macroblocks.

Thus, blurring may be effected to an extent determined by the protection level corresponding to each video frame. That is, a protection level is derived which is based on the apparatus protection data in combination with the medium protection level as specified for that particular frame, as hereinabove described.

The present invention thus enables reproduction protection to be applied in both (or either) of the time domain (for example, by modifying each of a sequence of video frames) or the spatial domain (for example, by modifying one or more selected regions within a video frame).

As is clear from the foregoing, and as clearly supported by the specification, the present invention is directly applicable to applying a controlled, specified or limited reproduction protection to a data stream providing main data from a pre-existing item, such as an existing film, an existing video game, etc. The main data from the pre-existing item is degraded, or otherwise limited, by applying effects such as blurring, mosaics, or the like, to the reproduction process.

As shown in the following, this concept is clearly foreign to, and not at all a part or suggestion of, the Abecassis disclosure.

Abecassis

In the pending Action, the Examiner has applied the Abecassis reference which, inherently, and by its very nature, cannot be applied directly to pre-existing entertainment items.

More specifically, the objective of the Abecassis patent is to enable a user to be supplied with a version of an entertainment item, e.g. a film or video clip, etc., which will be created in accordance with certain preferences of that user (e.g., "responsive to a viewer's preestablished video content preferences ... stored in the video system" - Abstract, lines 6-7, 13-15; col. 1, lines 10-11; and as fully defined at col. 40, lines 20-39.)

These preferences are required to have been specified beforehand to an apparatus which, rather than degrading reproduction of particular portions of the data stream, will generate a specific data stream representing an appropriate version of the entertainment item, with such a version being referred to by Abecassis as a "program".

In other words, while the present invention implements a particular form of degradation of an existing data stream during reproduction, Abecassis creates a fresh content data stream, by variably selecting from multiple content segments in accordance with the pre-stored user preferences, and reproduces the entire new content data stream, without any degradation. See col. 5, lines 15-22.

The concept of a variable content program, as described therein at col. 5, lines 40-50 and col. 7, line 51, uses alternate versions of the main data as "parallel, overlapping, and transitional segments", which are selectively combined to form the data stream for full and undegraded reproduction. Such scene creation is clearly differentiated from the concept of the invention, in which a main data stream (e.g., an existing scene) is reproduced, with variable reproduction protection (e.g., variable degradation of the reproduced main data stream.)

In order to perform the Abecassis variable program content concept in the prior art it has been necessary to have a plurality of different entire versions of each of various entertainment items (for example an entire PG-rated version of a film, an entire X-rated version of that film, and so on.)

However with the Abecassis invention, instead of utilizing entire different versions of each entertainment item, the entertainment item is processed as a series of segments, with certain ones of these segments having a plurality of versions, as apparent from the disclosure at Abecassis col. 5, lines 54-66. Before providing an entertainment item to a requesting user, the supplier apparatus automatically selects, for each of the segments that have a plurality of versions, a specific segment version that is in accordance with the preferences of the requesting user.

Thus for example with the example shown in Figs. 3A to 3E of Abecassis, a particular scene 3 consists of five segments as shown in Fig. 3A. The second segment has three alternative versions, i.e., the segment 311 which contains "explicit bloodshed", the segment combination (322, 322) which contains "no

bloodshed", and the segment combination (331, 332, 333) which contains "graphic bloodshed". By appropriately processing a "variable content program" shown in Fig. 3C, which contains all of the individually numbered video frames constituting all of the various segment versions, to select those segment versions that are in accordance with the preferences of the user, a transmission stream can be derived as shown in Fig. 3E, conveying a program that is in accordance with the preferences of the requesting user, with the sets of video frames constituting the respective segments having been appropriately spliced to provide seamless continuity. The resultant data stream can then be supplied to a reproduction apparatus, so that the entertainment item can be viewed by the user.

Thus, as described in the paragraph beginning at col. 9, line 56, the Abecassis approach is to insert new linkages or transitions from one segment to another, thereby creating a data stream which did not previously exist but was created to meet the user's stored preferences.

It is clear that such a system is essentially unrelated to the present invention, since:

(a) with the Abecassis invention, segments are selected in accordance with predetermined preferences of a particular user, and are spliced together to form a stream of data conveying an entertainment item (i.e., data corresponding to the "main data" of the claims of the present application). In ***Abecassis***, a reproduction apparatus (for example, as utilized by a requesting user, who receives the transmission stream 342 shown in Fig. 3E therein) ***does not apply any form of***

reproduction protection processing to the data conveying the entertainment item. Hence, there is nothing in the Abecassis disclosure corresponding to or suggestive of the medium protection data, the protection position information or the apparatus protection data of the claims of the present application.

(b) With the invention of the present application, since the reproduction apparatus itself operates directly on main data which have been conveyed by a data medium (e.g., by recording/playback of a DVD, or by transmission and reception via radio waves), the contents of the main data can be an arbitrary pre-existing entertainment item, such as an existing film or video game etc.

However when using the concepts underlying the Abecassis reference, it is impossible to directly utilize a pre-existing entertainment item, since it is necessary to generate beforehand various different versions of each of various segments within the entertainment item. Thus, as hereinabove noted, rather than applying reproduction protection to the process of reproducing an existing entertainment item which has been conveyed as data, Abecassis generates an entire entertainment item, as data, in accordance with the predetermined preferences of an intended recipient of that entertainment item.

Such generation is clearly set forth at col. 10, lines 56-59 of the reference, which discloses that "The processing architecture selecting the desired segment from the read stream 341 to generate a transmission stream 342 of the desired frames 351A-353A at a rate of 30 frames per second." A similar description is found at col. 18, lines 2-5.

At page 4 of the Action, the Examiner states that, in Figures 2-4, Abecassis "teaches the concept of ... detecting protection position information." However as is clear from the foregoing, Abecassis neither discloses nor suggests such a concept. Instead, the reference teaches an entirely different concept, that of generating an entertainment item in accordance with predetermined user preferences, by selecting data segments in accordance with these preferences and seamlessly combining these segments.

The so called "position information" utilized in the Abecassis reference is information relating to those segments for which alternative versions exist, for example information that the segment 3ii of scene number 3 shown in Fig. 3A extends between frame numbers 4112 to 6027. Such "position information" is nowhere suggested as being used to determine where to apply reproduction protection.

In summary, there is a clear and fundamental difference between "applying selective restriction to the reproduction of successive portions of a main data stream, whose respective positions in the main data stream are specified by the protection position information", as described in the present application, and selecting from among each of various sets of video data portions (with each set expressing a plurality of different versions of a portion of an entertainment item) to constitute a video data stream, as described by Abecassis.

Thus, it is respectfully submitted that one of ordinary skill, when confronted by the art applied in the Official Action, would not have been

motivated to modify the Kilbel reference to implement the subject matter of applicants' claims. Accordingly, the Official Action has not made the requisite ***prima facie*** showing of obviousness of applicants' claims.

In view of the foregoing, it is respectfully submitted that reconsideration and withdrawal is in order for the rejections set forth in the outstanding Official Action. Upon such withdrawal, it is further submitted that the application is in condition for allowance and an early indication of the same is courteously solicited. In order to expedite resolution of any remaining issues and further to expedite passage of the application to issue, the Examiner is respectfully requested to contact the undersigned by telephone at the below listed local telephone number if any further comments, questions or suggestions arise in connection with the application.

Respectfully submitted,
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